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A Candidate Roadmap to IT Certification

So You Want to be a

CompTIA Security+ Professional?

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Information Assurance Training and Certification – Forward

You heard about *IT* for several years.

You wondered how *IT* would affect you?

You debated *IT* with your peers!

Well, *ITs* here...and *IT* affects you and your career!

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Information Assurance Training and Certification – *Overview*

What is the IA Training and Certification Program?

1. On 15 August 2004, the Department of Defense (DoD) released DoD Directive 8570.1, Information Assurance Training, Certification and Workforce Management. This directive served as the first step in the DoD implementation of proposed Federal Information Technology Training and Certification guidelines. This program was born of the realization that, in order for the U.S. Government to adequately secure and defend Information Systems and Networks, IT personnel, whose duties include Information Assurance (IA) functions, must be properly trained and academically proven, via commercial IT certification. The primary intent of the directive states: *"Privileged users and IA managers shall be fully qualified, trained, and certified to DoD baseline requirements to perform their IA duties….The status of the DoD Component IA certification and raining shall be monitored and reported as an element of mission readiness and as a management review."*

2. On 28 February 2006, the U.S. Army CIO/G-6 published the first version of the Information Assurance Best Business Practice (IA-BPP) – IA Training and Certification, Version 2.0. Released as an addendum to AR 25-2 (Information Assurance), it serves as the Army's implementation plan and states: *"To support the warfighter in a highly effective and professional manner, the Army must ensure that appropriate levels of IA awareness, training, education, certification, and workforce management are provided to the IA workforce and IS users that commensurate with their respective responsibilities."*

3. What is the bottom line? The pace of Information Technology evolution is both rapid and ceaseless. While this techno-evolutionary process continues to be harnessed and refined for the benefit of the U.S. Government and its citizens, there coexists a segment of the world's population who choose to utilize it for the purpose of furthering criminal, terrorist, and subversive activities. Therefore, it is imperative that the U.S. Government IT Professionals entrusted with the management of the national infostructure possess technical skills, knowledge, and abilities that are on par to those of their commercial industry peers and equal or superior to those of would-be adversaries.

K E Y S

Who mandated training and certification?

(1) IA Best Business Practice (BBP) #05-PR-M-0002, dtd. 09 Mar 07; (2) Army Transition Plan for the Training and Certification Tracking System, Version 1.1, dtd. 17 Oct 07; (3) AR 25-2 (Information Assurance); (4) DoD Directive 8570.1 (IA Training, Certification and Workforce Management); (5) DoD 8570.01-M (IA Workforce Improvement Program) *(See Appendix A for additional references.)*

Why is this being mandated?

To ensure that personnel appointed to IA-related duties obtain and maintain the technical and security-related skills necessary to install, configure, maintain, and trouble-shoot U.S. Government Information Systems, in support of the overall success of the Information Assurance Program. Ultimately, public trust will increase exponentially, if citizens are confident that U.S. Government electronic Information Systems are safe and secure.

Experience **+** **Certification** **=** **Public Trust[2]**

How is the program structured?

Personnel with IA-related duties are categorized into two basic categories: (1) Information Assurance Management and (2) Information Assurance Technical. These categories are further subdivided into Levels I, II, and III. Each category provides for several certification options. DoD 8570.01-M also provides for two additional, specialty categories and subsets known as CND and IASAE. In some cases, personnel may fall into both an IAT category and the IASAE category. Refer to Appendix C for detailed descriptions of the aforementioned categories.

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Information Assurance Training and Certification – Overview *(Continued)*

Table 1 – DoD Baseline Certification Options for Garrison DOIM Personnel

Level	Designated Personnel	Certification Options	Recommended Certification
IAM-I	Directorate/Tenant IASOs	Security+, GISF, GSLC	Security+
IAM-II	Installation IAM and Alternate	CISSP, CISM, GSLC	CISSP
IAM-III[1]	Regional IAPM	CISM, GSLC, CISSP	N/A
IAM-II	Installation IAM and Alternate	CISSP, CISM, GSLC	CISSP
IAT-I	IT Desktop Support Technicians	A+, Network+, SSCP	A+
IAT-II	Installation IANM, IANO, SA/NA	Security+, GSEC, SCNP, SSCP	Security+
IAT-III[1]	Regional IANM	CISA, CISSP, GSE, SCNA	N/A
IASAE-I, II, & III[2]	System Architects and Network Engineering Personnel[3]	IASAE-I & II: CISSP (or Associate) IASAE-III: ISSEP or ISSAP	CISSP
CND-SP[1,2]	CND-A, CND-IS, CND-IR, CND-AU, CND-SPM Personnel	CND-A: GCIA; CND-IS: SSCP; CND-IR: GCIH, CSIH; CND-AU: CISA, GSNA; CND-SPM: CISSP-ISSMP, CISM	N/A

[1] No local requirement exists for the category and related certification at the Installation level.

[2] Personnel may simultaneously be categorized in IAM/IAT levels and IASAE/CND-SP categories and, as a result, be required to obtain separate certifications to fulfill minimum requirements.

[3] IASAE-II category is the only one staffed at the installation level.

Information Assurance Training and Certification – Overview *(Continued)*

Why are these certification options recommended?

Though several certification options exist, within each IAM/IAT/IASAE/CND-SP category, recommendations were formulated and incorporated into Individual Development Plans and Performance Objectives, based on several considerations. These include:

1) Industry Recognition: The certifications chosen represent the most well-known and respected ones, throughout the Information Technology industry. Therefore, personal Return on Investment, based on time and effort spent by personnel, is maximized.

2) Availability and Quality of Training: Training materials (e.g. computer-based training, publications, etc.) for candidates seeking well-known certifications are far more numerous than those of lesser-known certifications. In the case of the CompTIA Security+ and CISSP certifications, Common Body of Knowledge (CBK), resident courses are conducted by the Army School of Information Technology, at Fort Gordon, GA, to better prepare personnel, prior to certification testing.

3) Improved Academic Preparation Opportunities: Uniform certification options provide for the opportunity for the creation of small study groups, composed of organizational personnel. This method allows candidates to focus on a single, standard set of objectives, which are uniform in weight of importance and presence on the actual certification examination.

4) Program Performance Assessment: By applying a uniform certification process, organizations can better assess, through statistical and trend analysis, the effectiveness of training offered in preparation for certification testing. Resultant trends can then be used to recommend changes to the CIO/G-6 to increase the quality and/or quantity of training opportunities provided, in order to increase the overall percentage and rate of speed of compliance with certification requirements.

Information Assurance Training and Certification – Overview *(Continued)*

Into which category do I fall?

Based on your technical duties and their relation to the IA Program, you occupy an **IAM Level I** position. What does IAM Level I mean? It means you are an Information Assurance Security Officer (IASO), Information Management Officer (IM), or Information Systems Officer (ISO) who has privileged access to computers, servers, or other IT-related device, at the Computing Environment (CE) level. Additionally, it means you play a key role in the implementation and sustainment of the Army's Information Assurance Program. Accordingly, you must be trained and certified to complete these duties!

What do I have to do?

Complete all training requirements for your level and successfully pass the commercial certification exams required to obtain the credential of CompTIA Security+ Professional[1]

When do I have to be certified?

Currently employed personnel must be fully trained and commercially certified by 31 December 2010 . Thereafter, new, Military, Civilian, and Contractor personnel must be certified within (6) months of appointment.

What happens if I don't comply?

Personnel who do not meet minimum requirements within the required timeframe above must have their privileged access (e.g. Local/Network Administrator Access) rescinded. Non-compliance also reflects negatively on Army organizations, since IT Training and Certification is a reportable measure at the Army level (e.g. CLS, IT Metrics, etc.) and DoD level (e.g. IA Workforce Implementation Milestone Budget Plan and Annual IA Workforce, Training, Certification, and Management Report). Ultimately, this statistical data will be used to compile reporting to the U.S. Congressional level, on an annual basis.

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[1]CompTIA Security+ requires the completion of CompTIA Exam SYO-101.

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A Candidate Roadmap to IT Certification

Ten Simple Steps to

IT Certification

Information Assurance Training and Certification – *A Candidate Roadmap to IT Certification*

Table 2 – U.S. Army Certification Process Steps

TEN SIMPLE STEPS
TO IT CERTIFICATION

Step 1 – Acknowledge Reality

Step 2 – Registering in Army Training & Certification (ATC) Tracking System

Step 3 – Meaning, Requirements, and Benefits of Certification

Step 4 – Completion of Training Requirements

Step 5 – Studying, Studying, and More Studying

Step 6 – Completing the Preassessment

Step 7 – Requesting Vouchers

Step 8 – Scheduling and Completing Examinations

Step 9 – Updating the ATC and Notifying the Information Assurance Manager (IAM)

Step 10 – Certification Sustainment Training

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A Candidate Roadmap to IT Certification

Steps 1 & 2

Acknowledging Reality and Registering in ATC

Steps 1 & 2 – Acknowledging Reality and Registering in the ATC

1. Step 1 & 2 are completed by registering in the ATC website. When registering, you are required to complete a survey, which determines the IAM or IAT category into which you fall. If you are an IAM-I and your survey results categorize you as an IAM-II, complete the survey again and until such time that you are categorized correctly.

2. When registering, ensure you put the right organizational information, region, etc. When in doubt contact the IA Policy Management Branch for assistance. If you erroneously fall into the wrong hierarchy, the DOIM cannot see you or your progress!

3. Once you are registered, the IAM will validate and approve the information you entered. From there, the clock starts ticking toward the mandatory compliance date.

4. Your training requirements will be automatically generated, based on your IAM/IAT categorization. When training is completed via Army E-Learning or the IA Training website (see Appendix D), the results will automatically feed into your ATC profile.

5. Training completion may take up to two weeks to reflect in the ATC. If training completion has not accurately reflected after three weeks, contact ATC personnel, via link provided in the website, to report the problem.

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A Candidate Roadmap to IT Certification

Step 3

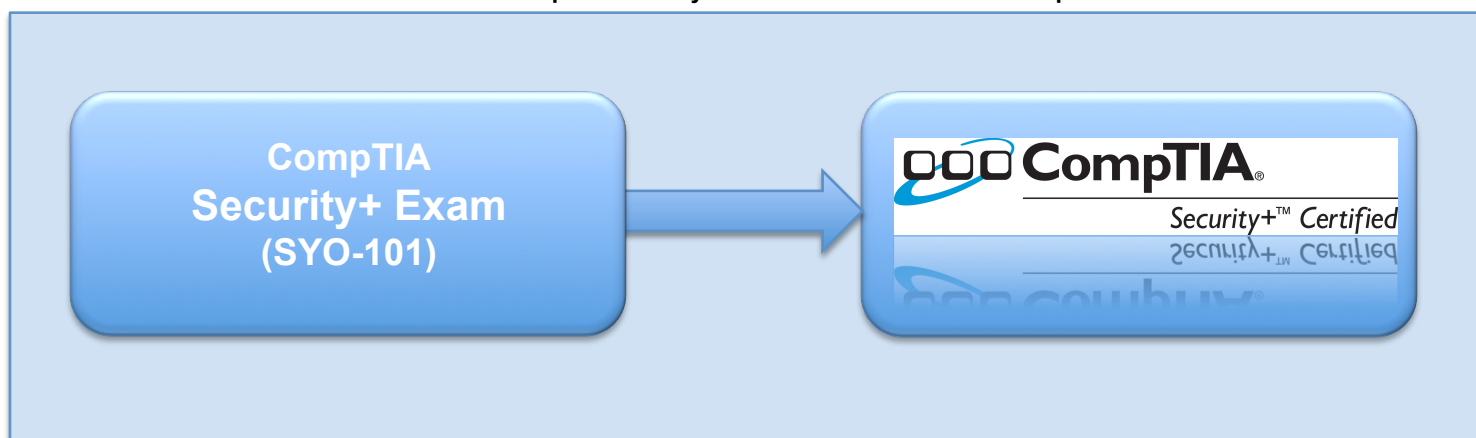*Meaning, Requirements & Benefits of Certification*

Step 3 – Meaning, Requirements, & Benefits of Certification

1. The Computing Technology Industry Association® or CompTIA , as it is more widely known, is an industry-recognized organization, which oversees various IT technical certification programs. According to CompTIA website:

"CompTIA Security+ validates knowledge of communication security, infrastructure security, cryptography, operational security, and general security concepts...Because human error is the number one cause for a network security breach, CompTIA Security+ is recognized by the technology community as a valuable credential that proves competency with information security."[1]

2. To obtain Security+ certification, a candidate must successfully pass the CompTIA Security+ Exam (SYO-101)[2].

Table 3 – CompTIA Security+ Certification Examination Requirements

CompTIA **Security+ Exam** **(SYO-101)**	→	**CompTIA**® *Security+™ Certified*

[1]CompTIA Website 2008; http://certification.comptia.org/security
[2]Though not a requirement, CompTIA recommends that candidates successfully complete the CompTIA Network+ exam. Candidates who are not eligible to receive DoD vouchers for Network+ should, at a minimum, complete one or more Army E-Learning courses on networking fundamentals, in order to enhance their academic preparation.

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Step 3 – Meaning, Requirements, & Benefits of Certification *(Continued)*

3. The CompTIA Security+ certification is more than just an acronym for one's signature block, business card, and resume. When given a choice between two IT professionals with equivalent years of experience, a customer or hiring organization will most likely choose the one with the commercial IT certification.

4. Why? It's because your professional certification instantly communicates to companies, other IT professionals, and educated customers that you not only possess years of experience but also have taken the time to academically validate the knowledge you apply on a daily basis.

Table 4 – CompTIA Security+ Objectives

CompTIA Security+ 2002 Objective	Objective %	CompTIA Security+ 2008 Objective[1]	Objective %
1.0 General Security Concepts	30%	1.0 Systems Security	21%
2.0 Communication Security	20%	2.0 Network Infrastructure	20%
3.0 Infrastructure Security	20%	3.0 Access Control	17%
4.0 Basics of Cryptography	15%	4.0 Assessments & Audits	15%
5.0 Operational/Organizational Security	15%	5.0 Cryptography	15%
Total	**100%**	6.0 Organizational Security	12%
		Total	**100%**

[1]From official draft objectives published on the CompTIA website. Date of implementation has not yet been announced.

5. Understand the objectives? Now, it's time to organize a study plan to increase the probability of passing the examination on the first attempt. Need an example? You're in luck! A sample plan is provided in Table 5, below.

Step 3 – Meaning, Requirements, and Benefits of Certification *(Continued)*

Table 5 – Sample IT Certification Study Plan for IAM Level I Personnel

Phase	Description	Remarks
1	Complete the IASO, IA Technical Level I, and E-Learning Security+ courses.	Completion of these courses provides the candidate with a solid foundation of fundamental security concepts.
2	Complete E-Learning preassessments for each module of the Security+ course (SYO-101) and determine to which objective it relates.	Allows the candidate to identify their knowledge within the objective and the amount of concentration required. This should be done for each course separately.
3	After correlating each module to the objective(s) it addresses, read applicable chapters or sections from at least (1-2) different study books to provide basic familiarization with the subject matter. (*Note*: Candidates who find more than 25% of the subject matter to be "new knowledge" to them should conduct additional study, prior to completing the related, E-Learning course modules.)	Study books may include both printed textbooks or electronic books. For Army personnel, Books 24x7® is available free-of-charge, via Army E-Learning, and allows on-line reading. Candidates who prefer to printed material may purchase similar titles at their local bookstore.
4	Complete the E-Learning course of instruction for the module preassessment taken in Phase 2 and relating to the subject matter read in Phase 3.	The preassessment and self-study better allows key concepts to be more quickly learned and better retained.
5	Complete the E-Learning course module post-assessment.	Post assessment results allow the candidate to identify if further concentration is necessary within this objective.
6	Repeat Phases (2-5) for subject matter within each objective, until all E-Learning course modules are completed and mastered at a 95% or greater level.	Upon completing all course modules, the candidate should be prepared to enter a period of group and self-study in final preparation for the actual examination.
7	Upon completing all required computer-based training, conduct self-study (1-2) hours daily and, if possible, group study (1-2) times per week, for (2-3) month period.	Group and self-study can assist in reinforcing key concepts. Source material may include Books 24x7, reputable study websites, and personally purchased printed materials. If purchased study materials include electronic practice exams, these should be practiced at least weekly.
8	Complete official, U.S. Army Preassessment Testing when fully prepared and ready to request exam voucher (if applicable).	This is a requirement for all personnel requesting exam vouchers. Visit https://atc.us.army.mil/iastar/preassessment_info.php for detailed information.

A Candidate Roadmap to IT Certification

Step 4

Completion of Training Requirements

Step 4 - Completion of Training Requirements

1. Minimum training requirements for the program are listed below. Additional training may be required, depending upon the candidate's level of knowledge and experience:

a. <u>IASO Online Course</u> - Designed to equip personnel with a basic understanding of computer security policies and their role and responsibility in the oversight and enforcement of practices and procedures necessary to successfully execute the IA program. Training Source: https://ia.gordon.army.mil/iaso

b. <u>IA Technical Level I Certification Course</u> –These modules are intended to provide personnel with a general understanding of basic and advanced Windows Operating System (Windows Server 2003, Windows XP) functionality, as well as conceptualized understanding of Encryption Technologies, Active Directory architecture, Intrusion Detection principles, and Firewalls. Knowledge obtained in Security+ training will be applied to the concepts learned in these courses. Training Source: https://usarmy.skillport.com, Search Query: LP30

c. <u>CIO/G-6 Information Assurance Security+</u> - Modules are designed to educate personnel and validate knowledge of communication security, infrastructure security, cryptography, operational security, and general security concepts. Training Source (CBT): https://usarmy.skillport.com, Search Query: LP34

2. Additional training may be required, depending upon the candidates level of knowledge and experience. This requires objective self-assessment by the candidate, upon completion of the minimum requirements. Links to additional training sources are provided in Appendix D.

A Candidate Roadmap to IT Certification

Step 5

Studying, Studying, and More Studying

Step 5 – Studying, Studying, and More Studying

1. Many people fail commercial IT certification tests on the first attempt. There is no shame unless the candidate knowingly fails to adequately prepare themselves. Commercial IT Certification testing is designed to be difficult in order to objectively measure the candidate's subject matter expertise and ensure the continued integrity of the credential.

2. One source of study is not sufficient to master all of the domains covered in the certification process. A prepared candidate will use at least (2-3) different sources to prepare for first-time success. This may include a combination of computer-based training, electronic books, technical whitepapers, practice exams, textbooks, flash-cards, etc. Depending upon individual learning style and retention capability, group study may be beneficial, as well.

3. _**Repetition = Retention**_: Total preparation time may range from (2-6) months, depending upon the candidate's previous experience, study habits, etc. Candidates who want to be expertly prepared will dedicate at least (1-2) hours daily, five times per week. Breaks in the study routine for more than one week should be avoided, if at all possible.

4. Candidates should avoid "Study Guides" available for purchase on websites around the internet that are not explicitly endorsed by the certifying organization. Unlike printed books which allow for users to post reviews, there is no mechanism to verify the correctness of the information they provide. Additionally, some make false guarantees and purport 100% pass rates. Many are considered to be "Brain Dumps" that may contain copyrighted material from official certification organizations. The substantiated use of such materials may constitute grounds for the revocation of certification credentials by the issuing organization.

5. Many reputable websites do exist which provide discussion forums and study materials. The key is to find a legitimate one that provides _correct_ information. Forum websites are often a good venue to post questions about specific objectives, technical details, etc. Other forum members are usually certified or are, themselves, candidates, which makes the medium a "virtual study group" of sorts!

6. _**The Bottom Line**_: Memorizing and learning information are two completely different things. Certification is intended to enhance the performance of IT Professionals, accelerate professional development, and increase organizational productivity and effectiveness. What one gets out of it depends upon what they put into it!

A Candidate Roadmap to IT Certification

Step 6 & 7

Completing the Preassessment &

Requesting Vouchers

Steps 6 & 7 – Completing the Preassessment & Requesting Vouchers

Ready to request your voucher?

Wait, there's one more task to complete. Upon completion of all required training and the self-study period, individuals must complete the official Army Preassessment Examination that corresponds to their certification requirement.

What are the requirements?

Active Duty and DA Civilian personnel are eligible to request vouchers. The IA Training and Certification BBP states that these personnel must complete the preassessment, prior to requesting an exam voucher. Contract personnel will have their examination fees paid by their employing company but should complete the preassessment to validate their preparedness, prior to testing.

Don't Worry….You're Almost There! → **CompTIA** Security+™ Certified

What is a voucher, and how do I benefit from it?

It is a coupon purchased by the government that allows you to take the certification examination, at no personal financial cost. When you register for the examination, you enter the voucher number as the payment option. The benefit is enormous! IT Professional Certification examinations range in price from $80 to $500, depending upon the credential. This price does not include costs paid for computer-based training, study-related textbooks, etc. Basically, training and certification costs are being paid in full, for an IT certification that benefits and follows you for the rest of your career!

How do I complete the preassessment and voucher request process?

Instructions on preassessment testing, as well as the voucher request form, for Army personnel can be found on the ATC website at https://atc.us.army.mil/iastar/preassessment_info.php.

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Step 8

Scheduling and Completing Examinations

Step 8 – Scheduling and Completing Examinations

What do I do when I receive the voucher?

Once you receive the voucher, you have (60) days to use it, as per guidance detailed in the Army Transition Plan for the Training and Certification Tracking System. For this reason, make note of the date of issuance. The next step is to study for a (1-2) more weeks to ensure you are adequately prepared. When you are certain, register for the exam.

How do I register for the exam?

Exam registration for CompTIA exams is handled by third-party companies Pearson VUE™ (http://www.pearsonvue.com) and [1]Prometric™ (http://www.prometric.com). Both websites provide registration for many industry-recognized IT Certifications. Candidates must create an account in order to register for an exam. Examinations can be scheduled online, on the date/time desired and at one of the testing centers listed by the vendor. An area is provided where candidates may enter their voucher number. This will serve as the "form of payment" for testing fees. When the scheduling/voucher transaction is finalized, there are very few justifiable reasons to cancel or reschedule. Therefore, be certain you are ready and have no scheduling conflicts before completing registration! When registering be sure to select the English version of the Security+ exam.

Where is the nearest testing center?

Numerous testing centers are located throughout the San Juan Metropolitan Area. The testing centers closest to Fort Buchanan are New Horizons (Cityview Plaza, Guaynabo) and TeKnowLogic (Metro Office Park, Guaynabo).

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[1]Prometric™ is the only vendor for Microsoft examinations. Candidates who plan to take future examinations toward Microsoft certifications may wish to complete registration with Prometric™ in order to have exam results accessible in one place.

Step 8 – Scheduling and Completing Examinations *(Continued)*

What do I have to take to the exam?

Candidates must show (2) forms of valid, photo identification (e.g. drivers license and DoD CAC). No materials may be taken into the testing area. This includes keys, wallet, pens, loose change, etc. The test proctor will collect and store any items in your possession.

What will the testing process be like?

After verifying your identity by comparing your identification to the exam registration information, the proctor will require you to read and sign a candidate non-disclosure agreement. You will then be required to sign in the examination log, which you will also sign out on, when finished. The proctor will then escort you into an enclosed, testing cubicle. He or she will load the exam on a computer and inform you of the total time allowed and your start time. You will first be required to electronically complete another candidate agreement and be allowed to begin. The remaining time will always be present at the top or bottom of the screen. You should read each question carefully and completely. Pay close attention to questions, since they may ask questions like, "Which is not an option for…." Once you have finished the last question, you will be presented with a screen, which lists your answers for each question. Be certain that all questions have an answer before selecting the option to finish the Exam. Unanswered questions will count against you. Helpful tips for taking exam day are included in *Table 8 - CompTIA Test-Taking Tips*.

Step 8 – Scheduling and Completing Examinations *(Continued)*

What is going to be on the exam and how long do I have?

Table 6 – CompTIA Security+ Exam Format

	CompTIA Security+ Exam (SYO-101)[1]
Number of Test Questions	100
Testing Format	Linear/Computer-based
Question Distribution	Questions from each objective area are distributed randomly throughout the exam. The number of questions within each objective is determined, based on the percentages listed in the objective overview.
Maximum Time Allowed	90 Minutes
Passing Score (Scale of 100-900)	764
Languages	English/German/Japanese/Korean
Notes	Additional time is allowed for candidates taking the English version of each exam at testing centers located in Puerto Rico, regardless of whether the candidate's first language is English or Spanish. Starting score is 100. Thereafter, questions are weighted individually, based on complexity, and count toward the minimum passing score.

[1]Draft objectives for the Security+ 2008 Objectives have been officially published. It has not been announced by CompTIA if the testing format (e.g. number of questions, minimum passing score, etc.) will be changed. During the initial deployment period, candidates may be allowed to choose between completing the exam covering the 2002 or 2008 objectives.

What happens when I finish?

Once the candidate selects "End Exam", they will be prompted to verify they are certain. Once the selection is validated, the testing screen will go blank for 10-20 seconds. The next screen will indicate whether the candidate passed or failed. A score report will be printed and provided to you by the proctor, upon completion.

Step 8 – Scheduling and Completing Examinations *(Continued)*

What is next after passing the exam?

Once the exam has been successfully completed, the testing center will upload the results to the testing vendor's website. You should then log in to the testing center account you created when registering for the exam to verify correct posting of your examination results, which should be reflected in your account profile within (1-2) working days. Once reflect, go to the CompTIA member website (https://certify.comptia.org/) to create an account. To create the account, you will need the score report provided at the testing center. When entering your personal information, pay close attention to the spelling of your name and mailing address you provide, since it will be used to generate and mail your CompTIA Professional Certificate. It may take an additional (1-2) working days for exam results to transfer from the test vendor to CompTIA. Certificate, member card, and welcome materials should be received within (4-6) weeks.

To whom do I need to provide my results?

At a minimum, you need to notify the IAM and your supervisor. The method by which you notify them is dependent upon whether you passed or failed the exam. If you successfully passed the exam, Step 9 will explain how you can officially notify the IAM, your supervisor, and whomever else you would like. If you didn't pass the first time, you'll need to follow the retraining process, prior to being allowed to test a second time.

What if I don't pass it the first time?

First of all, take a deep breath! If you don't pass the first time, don't despair. Many people don't pass IT certification exams on the first attempt. Remember, they're designed to be difficult, in order to validate one's academic knowledge of the objectives. Review your score report, which will indicate your performance, within each objective category. This is your most helpful tool. It lets you know what areas you need to concentrate on the most. DoD and DA policy provides for this possibility in and provides a second chance, via retraining retesting process. *See Table 7 – Retraining and Retesting Process for CompTIA Security+.*

Step 8 – Scheduling and Completing Examinations *(Continued)*

Table 7 – Retraining and Retesting Process for CompTIA Security+[1]

Notify the IAM and your supervisor of your results, by providing a copy of the score report.

→

Mark your calendar with the first exam date. You must wait 60 days to request a second voucher.

→

Complete Security+ online, instructor led training on the VTE website.[2]

Complete additional self-study, focusing on weakest areas, as per the score report.

→

Complete the preassessment again with a score of 85% or better.

→

At the 60 day mark, reinitiate the voucher request process.

Once you receive the voucher, register again for the exam.

→

Become...

CompTIA
Security+™ Certified

[1]See detailed retraining requirements for 2nd Security+, Network+, A+, and CISSP Vouchers at https://atc.us.army.mil/iastar/ retraining_requirements_for_2nd_vouchers.doc
[2]See Appendix D for VTE website overview and URL.

Step 8 – Scheduling and Completing Examinations *(Continued)*

Table 8 – CompTIA Test-Taking Tips

Helpful Tips for Test Day	
Try to schedule your exam during the morning, to avoid becoming distracted by the day's activities or falling behind in your schedule.	Avoid cramming the night before the exam. If you studied using the objectives, a quick review of your weakest areas the day before should suffice.
Get a good night's sleep and eat a healthy breakfast.	Arrive 15-20 minutes early, so you have time to park, use the restroom, and sign-in.
Take it slowly. You have plenty of time if you studied well and know the material, within each objective area.	Don't become agitated if the questions look strange. They will look different than those seen on practice exams. What is important is that you learned the subject matter, not the sentence structure!
If time allows, revisit any questions you marked for review. Be careful about changing answers, though, since your "gut" reaction is often the correct one!	Before you end the exam, be sure that you left no questions blank. They will count against your score.
You can find more study and test-taking tips that apply equally to most IT Certification exams, courtesy of CompTIA at http://certification.comptia.org/resources/test_tips.aspx.	

A Candidate Roadmap to IT Certification

Step 9

Updating the ATC and Notifying the IAM

Step 9 – Updating the ATC and Notifying the IAM *(Continued)*

Congratulations!

If you've made it to this step, it means you successfully passed the certification exam. Whether you did it on the first or the second try, you have succeeded in validating your years of experience through your academic performance! The next step is to let the world know...

How do I notify the IAM of my results?

Official notification of results can be completed by accessing the CompTIA member account you created and selecting the option to "Publish Credentials". The email address entered should be that of the the IAM. The credential report will be sent to the recipient's email address and be available for him or her to view for a period of two-weeks. In the interest of prompt reporting and compliance reflection, do not wait until receiving the CompTIA certificate to notify the IAM. Additionally, you may use this method to publish your credentials to your supervisor or whomever else you choose.

What do I need to update in my ATC profile?

When you log in to the ATC website, your profile will list your certification requirements options in a table near the top of the page. Below this table, select "Add a Certification". On the next screen, select the certification completed from the drop-down menu. Next enter the date it was completed and select "Add". Once you receive your certificate via mail, you should scan and attach it to the record entry, via upload. In the interim, the IAM can still validate your compliance using the credential publication email.

A Candidate Roadmap to IT Certification

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Step 10

Certification Sustainment Training

Step 10 – Certification Sustainment Training

What do I have to do to maintain my certification?

CompTIA certifications do not require maintenance training or fees. They are "good for life", as long as the member does not have their certification revoked for violating the ethics policy or otherwise failing to abide by the terms of use mandated by the certifying body.

What sustainment training is required?

The Army BBP delineates required refresher training, which must be completed every (18-24) months for personnel in the position of IAPM, IANM, IAM, IASO, IMO, ISO, SA/NA, IANM/IANO, DAA, or CA. As an IAM-I designee, you must comply with this requirement to remain "trained and certified". Failure to complete refresher training will reflect negatively on organizational reporting and require that you be removed from your IA duties. As an IT professional, though, you should complete 20-40 hours of refresher training (e.g. E-Learning security-related courses and modules) _annually_, to sharpen your skills and stay abreast of emerging technologies. Additionally, your Performance Objectives and Individual Training Plan (IDP) may contain them. _Table 9 – Minimum IA Refresher Training_ contains options applicable to personnel in all IAM/IAT categories.

Table 9 – Minimum IA Refresher Training

IA Refresher Training Opportunities	
Completion of any series of modules from the requirements at the current or next-higher level of the IAM/IAT path.	Completion of Army E-Learning IA customer Path Phase I – GIAC Security Fundamentals (15 modules; 3-5 working days)
Completion of Army E-Learning IA Custom Path Phase II – IDO 470 Security (CIWSP) Professional (5 modules; 2-3 working days)	Attendance at an Army, other DoD Component or DoD IA Workshop

Step 10 – Certification Sustainment Training *(Continued)*

What if I want to get certified at a higher IAM/IAT level?

Depending upon availability of training funding, voucher availability, and IAM endorsement, personnel may seek to achieve additional certification at the same level or a higher level. Contact your IAM for more information.

What if there are no additional, higher-level vouchers available?

Even if training funding and/or vouchers are unavailable based on the current demand, personnel can still utilize the Army E-Learning courses designed to prepare personnel for these certifications. Personnel always have the option to fund the higher-level certification exam on their own. Doing so demonstrates personal initiative and interest in career development. Having access to Army E-Learning alone can save thousands of dollars that independent candidates normally spend on books, computer based training, and other training materials! This makes the cost of the actual exam a minimal amount to invest in one's own future!

Where do I look for information regarding higher-level IAM/IAT requirements?

Those who wish to become certified at a lower or higher level than IAM-I may refer to the Fort Buchanan DOIM's *"A Roadmap to IT Certification – So You Want to be a CompTIA A+ Professional"* or *"A Roadmap to IT Certification – So You Want to be a CISSP"* for additional IAM/IAT training and certification overviews. Additionally, the Army BBP and DoD 8570.01-M list additional IT certifications that personnel may find useful in planning career progression and maximizing developmental opportunities.

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Appendix A - References

(a) IA Best Business Practice (BBP) #05-PR-M-0002, dated 09 Mar 07

(b) Army Transition Plan for the Training and Certification Tracking System, Version 1.1, dated 17 Oct 07

(c) AR 25-2 – Information Assurance, dated 14 November 2003.

(d) DoD Directive 8570.1 (DoDD 8570.1) Information Assurance Training, Certification, and Workforce Management, 15 August 2004.

(e) DoD 8570.01-M – Information Assurance Workforce Improvement Program, dated 19 December 2005.

(f) Memorandum: Manpower and Reserve Affairs, Payment of Expenses to Obtain Professional Credentials for Army Civilian Employees, dated 20 June 2003.

(g) DoD Instruction 8500.2, "Information Assurance (IA) Implementation," February 6, 2003

(h) Section 3544 of title 44 US Code, (as added by the Federal Information Security Management Act (FISMA) of 2002)

(i) Title 29, Code of Federal Regulations, section 1607, current edition

(j) Office of Personnel Management Job Family Position Classification Standard for Administrative Work in the Information Technology Group, GS-2200; IT Management, GS-2210, May 2001, revised August 2003

(k) DoD Directive 8500.1, "Information Assurance (IA)," October 24, 2002

(l) DoD Directive O-8530.1, "Computer Network Defense (CND)," January 8, 2001

(m) DoD 5200.2-R, "Personnel Security Program," January 1987

(n) DoD Instruction 8510.01, "DoD Information Assurance Certification and Accreditation Process (DIACAP)", 28 November 2007

(o) Section 2224 of title 10, United States Code. "Defense Information Assurance Program"

(p) Section 278g-3 of title 15, US Code, (as added by the Computer Security Act of 1987)

(q) Office of Management and Budget Circular A-130, "Management of Federal Information Resources, Transmittal Memorandum No. 4," Appendix 3, November 30, 2000

(r) DoD Directive 1000.25, "DoD Personnel Identity Protection (PIP) Program," July 19, 2004

(s) DoD Instruction 7730.64, "Automated Extracts of Manpower and Unit Organizational Element Files," December 11, 2004

Appendix A - References *(Continued)*

(t) DoD Instruction 1336.5, "Automated Extract of Active Duty Military Personnel Records," May 2, 2001

(u) DoD Instruction 7730.54, "Reserve DoD Components Common Personnel Data System (RCCPDS)," August 6, 2004

(v) DoD Instruction 1444.2, "Consolidation of Automated Civilian Personnel Records," September 16, 1987

(w) DoD 8910.1-M, "DoD Procedures for Management of Information Requirements," June 30, 1998

(x) Director of Central Intelligence Directive 6/3, "Protecting Sensitive Compartmented Information within Information Systems", June 5, 1999

(y) Committee on National Security Systems Instruction No. 4009, "National Information Security System Glossary," as revised May 2003

(z) International Standards Organization/International Electronics Commission (ISO/IEC) 17024, "General Requirements for Bodies Operating Certification of Persons," April 2003

(aa) DoD 5500.7-R, "DoD Joint Ethics Regulation," August 1, 1993

(bb) DoD 1400.25-M Subchapter 1920, "Classification" April 28, 2006

Appendix B - Acronyms

Table 10 – Common IA-related Acronyms

Acronym	Meaning	Acronym	Meaning
ATC	Army Training and Certification	CND-IR	Computer Network Defense Incident Responder
A&VTR	Asset and Vulnerability Tracking Resource	CND-SP	Computer Network Defense Service Provider
BBP	Best Business Practice	CND-SPM	Computer Network Defense Service Provider Manager
C&A	Certification and Accreditation	CompTIA	Computing Technology Industry Association
CBT	Computer Based Training	COOP	Continuity of Operations Plan
CE	Computing Environment	DA	Department of Army
CIO	Chief Information Officer	DAA	Designated Approving Authority
CISSP	Certified Information Systems Security Professional	DIAP	Defense-wide Information Assurance Program
CND	Computer Network Defense	DIACAP	Defense Information Assurance Certification and Accreditation Process
CND-A	Computer Network Defense Analyst	DoD	Department of Defense
CND-AU	Computer Network Defense Auditor	FISMA	Federal Information Security Management Act
CND-IS	Computer Network Defense Infrastructure Support	GIG	Global Information Grid

Appendix B - Acronyms *(Continued)*

Table 10 – Common IA-related Acronyms

Acronym	Meaning	Acronym	Meaning
IA	Information Assurance	IAT-III	Information Assurance Technical Level III
IAM	Information Assurance Management/ Manager	IAVA	Information Assurance Vulnerability Alert
IAM-I	Information Assurance Management Level I	IAVB	Information Assurance Vulnerability Bulletin
IAM-II	Information Assurance Management Level II	IAVM	Information Assurance Vulnerability Management
IAM-III	Information Assurance Management Level III	IA WIPAC	Information Assurance Workforce Improvement Program Advisory Council
IANM	Information Assurance Network Manager	INFOCON	Information Operations Condition
IASE	Information Assurance Support Environment (DoD IA Portal)	INFOSEC	Information Security
IASO	Information Assurance Security Officer	IS	Information System
IAT	Information Assurance Technical	ISC2	International Information Security Certification Consortium
IAT-I	Information Assurance Technical Level I	ISSO	Information Systems Security Officer
IAT-II	Information Assurance Technical Level II	IT	Information Technology

Appendix B - Acronyms *(Continued)*

Table 10 – Common IA-related Acronyms

Acronym	Meaning	Acronym	Meaning
NE	Network Environment	OPM	Office of Personnel Management
NIPRNet	Non-classified Internet Protocol Router Network	OS	Operating System
OJT	On the Job Training	OSD	Office of the Secretary of Defense
OMB	Office of Management and Budget	SIPRNet	Secret Internet Protocol Router Network

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Appendix C – IAM/IAT and Speciality Level Descriptions[1]

Table 11 – IAM/IAT/Specialty Level Descriptions

IAM/IAT/ IASAE/CND-SP Level	Experience in IA or Related Field	System Environment	Knowledge	Supervision	IA Certification & OS Certification
IAM-I	Normally possesses at least (5) years of management experience.	CE IAM (e.g. ISSO/IASO)	Applies knowledge of IA policy, procedures, and structure to develop, implement, and maintain a secure CE.	Typically reports to IAM Level II.	Within (6) months of assignment to position.
IAM-II	Normally possesses at least (5) years of management experience.	NE IAM (e.g. Installation or Organizational IAM)	Applies knowledge of IA policy, procedures, and workforce structure to develop, implement, and maintain a secure NE.	Typically reports to IAM Level III (Enclave) Manager or DAA.	Within (6) months of assignment to position.
IAM-III[3]	Normally possesses at least (10) years of management experience.	Enclave Environment IAM (e.g. Regional IAPM)	Applies knowledge of IA policy, procedures, and workforce structure to develop, implement, and maintain a secure enclave environment.	Typically reports to the DAA.	Within (6) months of assignment to position.
CND-SP[3]	Contains (5) subcategories which require varying levels of experience, system environments, knowledge, and supervision. Refer to DoD 8570.01-M for detailed information regarding individual requirements.				

[1] Information extracted from categories established and detailed in DoD 8570.01-M, dated 15 May 2008.
[2] Personnel may simultaneously be categorized in IAM/IAT levels and IASAE/CND-SP categories and, as a result, be required to obtain separate certifications to fulfill minimum requirements.
[3] IAM/IAT-III, CND-SP and IASAE-I and III requirements do not exist at the Buchanan DOIM level.

Appendix C – IAM/IAT and Speciality Level Descriptions[1] *(Continued)*

Table 11 – IAM/IAT/Specialty Level Descriptions

IAM/IAT/ IASAE/CND-SP Level	Experience in IA or Related Field	System Environment	Knowledge	Supervision	IA Certification & OS Certification
IAT-I	Minimum of (0-5) years	CE (e.g. Desktop Support Technician)	Applies basic knowledge of IA concepts, practices and procedures within the CE.	Works under supervision and typically reports to a CE manager.	Within (6) months of assignment to position and mandatory for unsupervised privileged access.
IAT-II	Minimum of (3-7) years	NE & advanced CE (e.g. System or Network Administrator)	Mastery of the functions of the IAT Level I position. Applies knowledge and experience with IA concepts, practices, and procedures within the NE.	Works under supervision and typically reports to a NE manager.	Within (6) months of assignment to position and mandatory for unsupervised privileged access.
IAT-III[3]	Minimum of (7) years	Enclave Environment, advanced NE, and advanced CE	Expert in all functions of IAT Level I/II positions.	May lead and direct the work of others. Typically reports to an enclave manager.	Within (6) months of assignment to position and mandatory for unsupervised privileged access.
IASAE-II[2,3]	Minimum of (5) years	NE Architecture and Engineering	Applies knowledge of IA policy, procedures, and workforce structure to design, develop, and implement secure NE.	Typically reports to IASAE Level III, IAM, or DAA	Within (6) months of assignment to position and mandatory for unsupervised privileged access.

[1] Information extracted from categories established and detailed in DoD 8570.01-M, dated 15 May 2008.
[2] Personnel may simultaneously be categorized in IAM/IAT levels and IASAE/CND-SP categories and, as a result, be required to obtain separate certifications to fulfill minimum requirements.
[3] IAM/IAT-III, CND-SP and IASAE-I and III requirements do not exist at the Buchanan DOIM level.

Appendix D - Government and Commercial IT Certification-Related Websites

1. **Army Training & Certification Tracking System (ATC)** – Army website dedicated to tracking certification compliance. Used to create, review, and update the status of the training and certification progress of IA personnel. – https://atc.us.army.mil

2. **Army E-Learning** – Central repository of SkillSoft Computer Based Training courses, licensed for use by U.S. Army personnel. - https://usarmy.skillport.com/SkillPortFE/login/usarmylogin.cfm

3. **Books 24x7** – Electronic Library available through link on Army E-Learning website that contains multiple certification study-related publications. - https://usarmy.skillport.com

4. **U.S. Army IA Virtual Training** – Army website containing information security-related, computer-based training. – https://iatraining.us.army.mil

5. **CERT Virtual Training Environment (VTE)** – Carnegie Mellon website that provides information security-related, computer-based training to DoD personnel free of charge. Registration required from a computer with .mil address. - https://www.vte.cert.org

6. **CompTIA Government** – Contains information regarding CompTIA's partnership with the U.S. Government certification initiative - http://certification.comptia.org/resources/US_Gov.aspx

7. **CompTIA A+ Overview** – Contains official information regarding the CompTIA A+ certification. - http://certification.comptia.org/a/

8. **CompTIA A+ Sample Questions** – Official sample questions from the CompTIA website. Requires demographic data input, prior to being provided access. - http://certification.comptia.org/resources/practice_test.aspx

Disclaimer: Links to Non-U.S. Government websites are provided for reference purposes only and do not constitute specific endorsements of the website, its content, or links to external websites.

Appendix D - Government and Commercial IT Certification-Related Websites *(Continued)*

9. **CompTIA Security+ Overview** – Contains official information regarding the CompTIA Security+ certification. - http://certification.comptia.org/security/default.aspx

10. **CompTIA Security+ Sample Questions** – Official sample questions from the CompTIA website. Requires demographic data input, prior to being provided access. - http://certification.comptia.org/resources/practice_test.aspx

11. **International Security Consortium (ISC2)** – Official ISC2 website with information regarding the CISSP and related certifications. – http://www.isc2.org

12. **About.com Computer Certification** – Page within the About.com website that contains general information regarding the Computer Certification process. (Unofficial source not endorsed by or affiliated with CompTIA, ISC2, or other certification organizations.) - http://certification.about.com/od/entrylevelcertification1/a/studytips.htm

13. **Wikibooks** – Free electronic library which provides search queries to publicly available publications. (Unofficial source not endorsed by or affiliated with CompTIA, ISC2, or other certification organizations.) - http://wikibooks.org

14. **CCCure Website** – Site dedicated to CISSP and other ISC2-related certifications. Includes comprehensive CISSP examination overview, comprehensive testing engine, and other study materials. Requires free account registration. - http://www.cccure.org/

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